INDEX TO VOL. 47 PLATING 1960

A

Abrasive Compounds in Barrel Finishing, A. S. Kohler ... Page 59
Accelerated Corrosion Testing, A. Frank ... 623
Adherence of Thick Chromium Deposits as Affected by Surface Preparation, J. G. Poor, H. Chessin and C. L. Alderuccio ... 811
AES
AES Comes to America's West ... 653
AES Member and the Opportunity to Invest Himself for Large Stakes, H. E. Head (Editorial) ... 479
AES's First Family Trek to America's Far West, J. P. Nichols (Editorial) ... 583
AES's Coming Pilgrimage to New England's Citadel of Science ... 1174
Aerospace Finishing Symposium Paper Abstracts ... 84
Authors Honored at Society's 47th Annual Convention ... 942
Before the Supreme Society ... 684
Boards and Committees ... 671
Branch Delegates ... 669
Branch Presidents 1960–1961 ... 1172
Branch Librarians 1960–1961 ... 1282
Branch Directory ... 203, 673
City of Philadelphia—Tribute to Philadelphia Branch ... 700
Composition and Leadership 1960–1961 ... 1170
Convention Chairmen, 1960 ... 91
Convention Program, 47th Annual ... 198, 682, 837
Executive Board, South Bend Meeting ... 1383
Financial Report ... 1062
First West Coast AES National Convention Passes in Review ... 1043
History of Philadelphia Branch ... 202
Interim Meeting Reporter, 1960 ... 89, 201
Interim Meeting Reporter, 1961 ... 1384
Leadership Boards and Committees 1960–1961 ... 1168
Liaison Representatives with Other Societies, 1960–1961 ... 1282
Membership Report ... 242
Memphis Midsouth Branch Installed ... 1385
National Convention Boston ... 851, 944
National President Heads Proctor Award Committee ... 195
Nominees for AES Scientific Honor ... 1383
President's Inaugural Statement ... 1058
Report Executive Board Philadelphia Meeting ... 415
San Diego Temporarily Chartered ... 1383
Seventh Interim Meeting ... 417
Tentative 47th Annual Convention Program ... 422, 538
Tentative Program of Eighth Interim Meeting ... 1279
Western Chartered Branches, American Electroplaters' Society's Galaxy of ... 832
Age Hardening of Chemical Nickel Coatings, W. G. Lee ... 288
Alderuccio, C. L., J. G. Poor and H. Chessin
Adherence of Thick Chromium Deposits as Affected by Surface Preparation ... 811
Aluminum Alloys, Novel Process for Plating Nickel on, J. T. N. Atkinson ... 509
Aluminum and Zinc Castings, The Metallurgy and Production of, D. L. La Velle ... 180
Aluminum, Constant Wattage Hard Anodizing of, M. A. Blumenfeld and W. F. Schurig ... 1159
Aluminum, Finishing for the Production of an Oscilloscope, A. E. Cook ... 933
Analysis of Gold and Gold Alloy Plating Solutions, The Polarographic, A. E. Knotowicz and G. Tatoian ... 645
Ananiatis, N.
Practical Observations on Plating Buffed Zinc Die Castings ... 1023
Annual Report ... 655
Anodized Aluminum and Its Alloys, Superior Sealing of, C. C. Cohn and H. Sosson ... 917
Anodized Aluminum, Decorating, R. A. Botosan ... 1372
Anodized Aluminum, Photographic Reproduction on, A. Jogarao, K. S. Indira and B. A. Shenoi ... 1368
Anodizing of Aluminum, Constant Wattage Hard, M. A. Blumenfeld and W. F. Schurig ... 1159
ASTM
Semi-Annual Meeting Committee B-8, E. B. Saubestre ... 529, 1378
Atkinson, J. T. N.
Novel Process for Plating Nickel on Aluminum Alloys ... 509

B

Barrel Finishing, Abrasive Compounds, in, A. S. Kohler ... 59
Beckwith, M. M.
The Development of Duplex Nickel Plating Process ... 402
Ben, M.
Help Wanted (Editorial) ... 367
Miracles (Editorial) ... 995
Beuckman, F. O.
Branch Members' Education and *Your* Branch (Editorial) ... 1225
Beyer, S. J.
Choosing Between Zinc and Cadmium Electroplate for Corrosion Protection of Major Appliance Components ... 1361
Bigge, D. M.
Decorative Plated Coatings of Improved Durability ... 1263
Botosan, R. A.
Decorating Anodized Aluminum ... 1364
Biography
Alderuccio, C. L. ... 813
Ananiatis, N. ... 1026
Atkinson, Dr. J. T. N. ... 511
Beckwith, Dr. M. M. ... 404
Beyer, S. J. ... 1363
Bigge, D. M. ... 1274
Blumenfeld, M. A. ... 1165
Botosan, R. A. ... 1367
Brook, P. A. ... 1273
Caldwell, M. R. ... 401
Carlson, G. Jr. ... 58
Chessin, H. ... 813
Cohn, C. C. ... 925
Cook, A. E. ... 818, 936
Cotton, W. L. ... 175
Crain, J. R. ... 1036
Dingeldein, O. ... 1375
Dubpernell, G. ... 53
Faust, C. L. ... 411, 519, 1154
Francis, Dr. H. T. ... 1158
Frank, A. ... 631
Friedl, B. ... 527
Graul, W. E. ... 188
Gurklis, J. A. ... 1154
Gutzeit, G. ... 70
Harding, W. B. ... 1145
Hardy, R. W. ... 411, 1031
Higgs, R. F. ... 1262
Indira, K. S. ... 1371
Jogarao, A. ... 1371
Jones, A. Q. ... 636
Knotowicz, A. E. ... 647
Kohan, L. R. ... 1158
Kohler, A. S. ... 62
Krasley, P. A. ... 179, 287
Kriegler, R. ... 395
Lamb, Dr. V. A. ... 179, 296
La Velle, D. L. ... 187
Lee, W. G. ... 290
Mathur, P. B. ... 1276
McCarthy, J. A. ... 810, 1262
McGraw, L. D. ... 1154
McKinley, G. J. ... 636
Metzger, W. H. Jr. ... 287
Millage, D. R. ... 644
Miller, H. R. ... 411, 527
Mohrnheim, A. F. ... 822
Ogburn, F. ... 287
Poor, J. G. ... 813
Reid, W. E. Jr. ... 296
Safranek, W. H. ... 411, 519, 1031
Saltonstall, Dr. R. B. ... 644
Sample, C. H. ... 302
Schumacher, Dr. B. W. ... 395
Schurig, Dr. W. F. ... 1165
Shenoi, B. A. ... 1371
Sosson, H. ... 925
Sperry, L. B. ... 401
Strauss, S. W. ... 932, 1039
Tatoian, G. ... 647
Tsu, I. ... 632
Vlannes, P. N. ... 932, 1039
Blumenfeld, M. A. and W. F. Schurig
Constant Wattage Hard Anodizing of Aluminum ... 1159
Books
American Society for Testing Materials 1959 Proceedings, Vol. 59 ... 958
ASTM Standards on Metallic Coated Iron and Steel Products ... 799
Compilation of ASTM Standards on Copper and Copper Alloys B-5, 1959 ... 540
Compilation of ASTM Standards Relating to Coated and Uncoated Iron and Steel Sheet Strip, A-1, A-5 ... 540
Corrosion of Metals in Tropical Environments: Part 4—Wrought Iron, C. R. Southwell ... 540
Development of a Method to Accomplish Aluminum Deposition by Gas Plating, M. J. Hiler and W. C. Jenkin ... 799
Die Geschichte der Galvanotechnik (The History of Electroplating), O. P. Kraemer ... 341
Electroless Nickel Plating STP 265 ... 229
Electropolishing, Anodizing and Electrolytic Pickling of Metals, N. P. Fedot'ev ... 958
Evaluation of Protective Coatings for Molybdenum Nozzle Guide Vanes, 1st Lt. J. R. Giancola ... 799
Hydrogen-Embrittlement Susceptibility of Some Steels and Nonferrous Alloys, J. E. Scrawley ... 540
Marine Atmosphere Exposure of Galvanic Couples Involving Magnesium ... 799
Metallizing of Plastics, Harold Narcus ... 958
Modern Science Dictionary (1959), A. Hechtlinger ... 747
Paint Finishing in Industry, A. A. B. Harvey ... 229
Photomicrography of Metals ... 747
Preparation and Characteristics of Thin Ferromagnetic Films, The ... 160
Procedures for Electroplating Coatings on Refractory Metals ... 799
Radioisotopes for Industry, Robert S. Rochlin and Warner W. Schultz ... 160
Surface Treatment and Finishing of Aluminum and Its Alloys, S. Wernick and R. Pinner ... 343
Symposium on Electroless Nickel Plating (Catalytic Deposition of Nickel-Phosphorous Alloys by Chemical Reduction in Aqueous Solution) ... 540
Tin and Its Alloys, E. S. Hedges ... 1040
Borlet, C. G.
Finding Knowledge (Editorial) ... 1115
Physiology and AES's Health and Strength (Editorial) ... 147
Boston Branch's Minute Men Readying Boston for AES's Convention Advent ... 1283
Branch Members' Education and *Your* Branch, F. O. Beuckman (Editorial) ... 1225
Brook, P. A.
The Effect of Surface Preparation on the Tensile Strength, Hardness and Adhesion of Electrodeposited Nickel ... 1269

C

Cadmium Electroplating Process, Progress Toward the Development of a Nonembrittling. Part IV. Use of Methanol as a Solvent in Cadmium Plating Solutions, S. W. Strauss and P. N. Vlannes ... 926
Cadmium Electroplating Process, Progress Toward the Development of a Nonembrittling. Part V. Use of Pyridine as a Complexing Agent in Cadmium Plating Solutions, S. W. Strauss and P. N. Vlannes ... 1037
Cadmium Plated Spring Steel, Hydrogen Embrittlement of, J. A. Gurklis, L. D. McGraw and C. L. Faust ... 1146
Caldwell, M. R.
Evaluation of Modern Methods of Improving the Corrosion Resistance of Plated Zinc Base Die Castings ... 396
Carbonitrided Steel, Zinc Plating of, L. R. Kohan and H. T. Francis ... 1155
Carlson Jr., G.
Fifty Years of Progress in the Mechanical Finishing of Production Parts ... 54
Characteristics of Decorative Chromium Plate, The Corrosion Protective, W. H. Safranek, H. R. Miller and C. L. Faust ... 513
Chemical Nickel Coatings, Age Hardening of, W. G. Lee ... 288
Chessin, H., J. G. Poor and C. L. Alderuccio
Adherence of Thick Chromium Deposits as Affected by Surface Preparation ... 811
Choosing Between Zinc and Cadmium Electroplate for Corrosion Protection of Major Appliance Components, S. J. Beyer ... 1361
Chromium Plate, Use of Selenic Acid for Plating Microcracked, Protective and Decorative, W. H. Safranek and R. W. Hardy ... 1027
Chromium Plated Bright Work, Correlation of Outdoor Exposure, Service and Accelerated Tests on, R. B. Saltonstall and D. R. Millage ... 637
Chromium Plating Solutions, Determination of Sulfate in, G. J. McKinley and A. Q. Jones ... 634
Chromium Plating, The Development of, G. Dubpernell ... 35
Close Control Gives Reproducible Values in Plating Gold Selectively, O. Dingeldein ... 1372
Coatings of Improved Durability, Decorative Plated, D. M. Bigge ... 1263
Cohn, C. C. and H. Sosson
Superior Sealing of Anodized Aluminum and Its Alloys ... 917
Constant Wattage Hard Anodizing of Aluminum, M. A. Blumenfeld and W. F. Schurig ... 1159
Contribution of Nickel and of Chromium to the Durability of Decorative Plating, The, C. H. Sample ... 297
Cook, A. E.
Finishing Aluminum for the Production of an Oscilloscope ... 933
Method for Conducting an Electroplating Course, A ... 814
Copper Cyanide Plating Solutions, The Free Cyanide Analysis of, J. R. Crain ... 1032
Correlation of Outdoor Exposure, Service and Accelerated Tests on Chromium Plated Bright Work, R. B. Saltonstall and D. R. Millage ... 637
Corrosion Protection of Major Appliance Components, Choosing Between Zinc and Cadmium Electroplates, S. J. Beyer ... 1361
Corrosion Protective Characteristics of Decorative Chromium Plate, The, W. H. Safranek, H. R. Miller and C. L. Faust ... 513

Page

Corrosion Resistance of Electroplated Zinc Die Castings, Data on the, W. H. Safranek, H. R. Miller, R. W. Hardy and C. L. Faust ... 405
Corrosion Resistance of Plated Zinc Base Die Castings, Evaluation of Modern Methods of Improving the, M. R. Caldwell and L. B. Sperry ... 396
Corrosion Testing, Accelerated, A. Frank ... 623
Cotton, W. L.
Hydrogen Embrittlement of High-Strength Steels During Cadmium, Chromium and Electroless Nickel Plating ... 169
Crain, J. R.
The Free Cyanide Analysis of Copper Cyanide Plating Solutions ... 1032

D

Data on the Corrosion Resistance of Electroplated Zinc Die Castings, W. H. Safranek, H. R. Miller, R. W. Hardy and C. L. Faust ... 404
Decorating Anodized Aluminum, R. A. Botosan ... 1364
Decorative Chromium Plate, The Corrosion Protective Characteristics of, W. H. Safranek, H. R. Miller and C. L. Faust ... 513
Decorative Plated Coatings of Improved Durability, D. M. Bigge ... 1263
Decorative Plating, The Contribution of Nickel and of Chromium to the Durability of, C. H. Sample ... 297
Determination of Sulfate in Chromium Plating Solutions, G. J. McKinley and A. Q. Jones ... 634
Development of Duplex Nickel Plating Process, The, M. M. Beckwith ... 402
Developments in Electrographic Printing, H. R. Miller and E. B. Friedl ... 520
Development of Chromium Plating, The, G. Dubpernell ... 35
Dingeldein, O.
Close Control Gives Reproducible Values in Plating Gold Selectively ... 1372
Dubpernell, G.
The Development of Chromium Plating ... 35

E

Editorial
AES's First Family Trek to America's Far West, J. P. Nichols ... 583
AES Member and the Opportunity to Invest Himself for Large Stakes, H. E. Head ... 479
Branch Members' Education and *Your* Branch, F. O. Beuckman ... 1225
Evolution, R. D. Wysong ... 773
Finding Knowledge, C. G. Borlet ... 1115
Fourth Estate, J. P. Nichols ... 1333
Help Wanted, M. Ben ... 367
Miracles, M. Ben ... 995
Physiology and AES's Health and Strength, C. G. Borlet ... 147
Plating Magazine: Half-Century After Birth, R. D. Wysong ... 7
President's Message, W. Andrew Wesley ... 895
What Good is Theory? W. A. Wesley ... 255
Educational Sessions Program, 47th AES Annual Convention ... 685, 841
Effect of Surface Preparation on the Tensile Strength, Hardness and Adhesion of Electrodeposited Nickel, The, P. A. Brook ... 1269
Electrodeposited Nickel, The Effect of Surface Preparation on the Tensile Strength, Hardness and Adhesion of, P. A. Brook ... 1269
Electrographic Printing, Developments in, H. R. Miller and E. B. Friedl ... 520
Electroless Nickel Plating, Hydrogen Embrittlement of High-Strength Steels During Cadmium, Chromium and, W. L. Cotton ... 169
Electrolytes, Oxidation Characteristics of Tin-Plating, J. A. McCarthy ... 805
Electrolytic Stripping Method, A Precision Instrument for Testing the Thickness of Electroplates by, P. B. Mathur ... 1274
Electron Probe, Thickness Measurements on Platings by Means of an, R. Kriegler and B. W. Schumacher ... 393
Electrophoretic Deposition of Metals, Metalloids and Refractory Oxides, V. A. Lamb and W. E. Reid Jr. ... 291
Electroplating Course, A Method for Conducting an, A. E. Cook ... 814
Evaluation of Modern Methods of Improving the Corrosion Resistance of Plated Zinc Base Die Castings, M. R. Caldwell and L. B. Sperry ... 396
Evolution, R. D. Wysong (Editorial) ... 773

F

Factors Producing Tin-Plate Wood Grain, R. F. Higgs and J. A. McCarthy ... 1255
Faust, C. L., H. R. Miller and W. H. Safranek
Corrosion Protective Characteristics of Decorative Chromium Plate, The ... 513

Page

Faust, C. L., J. A. Gurklis and L. D. McGraw
Hydrogen Embrittlement of Cadmium Plated Spring Steel ... 1146
Faust, C. L., R. W. Hardy, W. H. Safranek, H. R. Miller
Data on the Corrosion Resistance of Electroplated Zinc Die Castings ... 405
Fifty Years of Progress in the Mechanical Finishing of Production Parts, G. Carlson Jr. ... 54
Films, The Preparation and Properties of Iron-Nickel, I. Tsu ... 632
Films, The Preparation and Properties of Iron-Nickel, I. Tsu ... 632
Finding Knowledge, C. G. Borlet (Editorial) ... 1115
Finishing Aluminum for the Production of an Oscilloscope, A. E. Cook ... 933
Fourth Estate, J. P. Nichols (Editorial) ... 1333
Francis, H. T. and L. R. Kohan
Zinc Plating of Carbonitrided Steel ... 1155
Frank, A.
Accelerated Corrosion Testing ... 623
Free Cyanide Analysis of Copper Cyanide Plating Solution, The, J. R. Crain ... 1032
Friedl, E. B. and H. R. Miller
Developments in Electrographic Printing ... 520

G

Gages for Measuring the Thickness of Chromium on the Internal Surface of Small-Bore Tubes, V. A. Lamb and P. A. Krasley ... 176
Gold and Gold Alloy Plating Solutions, The Polarographic Analysis of, A. E. Knotowicz and G. Tatoian ... 645
Gold Plating Over Silver, The Tarnish Resistance of, W. B. Harding ... 1141
Gold Plating Solutions, The Role of Yellow Prussiate in, A. F. Mohrnheim ... 819
Governor of California's Greeting to the AES ... 537
Graul, W. E.
Plating Tank Drains That Meet Philadelphia Requirements ... 188
Gurklis, J. A., L. D. McGraw and C. L. Faust
Hydrogen Embrittlement of Cadmium Plated Spring Steel ... 1146
Gutzeit, G.
Outline of the Chemistry Involved in the Process of Catalytic Nickel Deposition from Aqueous Solution, An, (Part IV) ... 63

H

Hardening Agent in a Watts Nickel Bath, Use of Disodium M-Benzenedisulfonate as a, W. H. Metzger Jr., P. A. Krasley and F. Ogburn ... 285
Harding, W. B.
The Tarnish Resistance of Gold Plating Over Silver ... 1141
Hardy, R. W. and W. H. Safranek
Use of Selenic Acid for Plating Microcracked, Protective and Decorative Chromium Plate ... 1027
Hardy, R. W., W. H. Safranek, H. R. Miller and C. L. Faust
Data on the Corrosion Resistance of Electroplated Zinc Die Castings ... 405
Head, H. E.
AES Member and the Opportunity to Invest Himself for Large Stakes (Editorial) ... 367
Help Wanted, M. Ben (Editorial) ... 367
Higgs, R. F. and J. A. McCarthy
Factors Producing Tin-Plate Wood Grain ... 1255
Hydrogen Embrittlement of Cadmium Plated Spring Steel, J. A. Gurklis, L. D. McGraw and C. L. Faust ... 1146
Hydrogen Embrittlement of High-Strength Steels During Cadmium, Chromium and Electroless Nickel Plating, W. L. Cotton ... 169

I

Indira, K. S., A. Jagarao and B. A. Shenoi
Photographic Reproduction on Anodized Aluminum ... 1368
Iron-Nickel Films, The Preparation and Properties of, I. Tsu ... 632

J

Japan's Plating Industry Viewed by Blount ... 1180, 1305, 1404
Jagarao, A., K. S. Indira and B. A. Shenoi
Photographic Reproduction on Anodized Aluminum ... 1368
Jones, A. Q. and G. J. McKinley
Determination of Sulfate in Chromium Plating Solutions ... 634

K

Kohan, L. R. and H. T. Francis
Zinc Plating of Carbonitrided Steel ... 1155
Kohler, A. S.
Abrasive Compounds in Barrel Finishing ... 59

Page

Krasley, P. A. and V. A. Lamb
Gages for Measuring the Thickness of Chromium on the Internal Surface of Small-Bore Tubes ... 176
Krasley, P. A., W. H. Metzger Jr. and F. Ogburn
Use of Disodium M-Benzenedisulfonate as a Hardening Agent in a Watts Nickel Bath ... 285
Kriegler, R. and B. W. Schumacher
Thickness Measurements on Platings by Means of an Electron Probe ... 393

L

Lamb, V. A. and P. A. Krasley
Gages for Measuring the Thickness of Chromium on the Internal Surface of Small-Bore Tubes ... 176
Lamb, V. A. and W. E. Reid Jr.
Electrophoretic Deposition of Metals, Metalloids and Refractory Oxides ... 291
La Velle, D. L.
The Metallurgy and Production of Aluminum and Zinc Castings ... 180
Lee, W. G.
Age Hardening of Chemical Nickel Coatings ... 288
Los Angeles Branch: AES's West Coast Pioneer ... 678

M

Mathur, P. B.
A Precision Instrument for Testing the Thickness of Electroplates by Electrolytic Stripping Method ... 1274
McCarthy, J. A.
Oxidation Characteristics of Tin-Plating Electrolytes ... 805
McCarthy, J. A. and R. F. Higgs
Factors Producing Tin-Plate Wood Grain ... 1255
McGraw, L. D., J. A. Gurklis and C. L. Faust
Hydrogen Embrittlement of Cadmium Plated Spring Steel ... 1146
McKinley, G. J. and A. Q. Jones
Determination of Sulfate in Chromium Plating Solutions ... 634
Mechanical Finishing of Production Parts, Fifty Years of Progress in the, G. Carlson Jr. ... 54
Metallurgy and Production of Aluminum and Zinc Castings, The, D. L. La Velle ... 180
Metals, Metalloids and Refractory Oxides, Electrophoretic Deposition of, V. A. Lamb and W. E. Reid Jr. ... 291
Methanol as a Solvent in Cadmium Plating Solutions, Use of. Part IV. Progress Toward the Development of a Non-embrittling Cadmium Electroplating Process, S. W. Strauss and P. N. Vlannes ... 926
Method for Conducting an Electroplating Course, A, A. E. Cook ... 814
Metzger, W. H. Jr., P. A. Krasley and F. Ogburn
Use of Disodium M-Benzenedisulfonate as a Hardening Agent in a Watts Nickel Bath ... 285
Millage, D. R. and Dr. R. B. Saltonstall
Correlation of Outdoor Exposure, Service and Accelerated Tests on Chromium Plated Bright Work ... 637
Miller, H. R. and E. B. Friedl
Developments in Electrographic Printing ... 520
Miller, H. R., W. H. Safranek and C. L. Faust
Corrosion Protective Characteristics of Decorative Chromium Plate, The ... 513
Miller, H. R., W. H. Safranek, R. W. Hardy and C. L. Faust
Data on the Corrosion Resistance of Electroplated Zinc Die Castings ... 405
Miracles, M. Ben (Editorial) ... 995
Mohrnheim, A. F.
The Role of Yellow Prussiate in Gold Plating Solutions ... 819

N

Nichols, J. P.
AES's First Family Trek to America's Far West (Editorial) ... 583
Fourth Estate (Editorial) ... 1333
Nickel Deposition from Aqueous Solution, An Outline of the Chemistry Involved in the Process of Catalytic, G. Gutzeit (Part IV) ... 63
Nickel Plating Process, The Development of Duplex, M. M. Beckwith ... 402
Novel Process for Plating Nickel on Aluminum Alloys, J. T. N. Atkinson ... 509

O

Obituaries
Borushko, M. ... 972
Buchanan, W. ... 559
Crowley, Dr. C. A. ... 1307
Faucher, A. W. ... 425
Halpin, G. H. ... 232

Page

Lukens, Dr. Hiram S. ... 88
Munning, A. P. ... 945
Schneider, W. J. ... 419
Shonberg, H. M. ... 340
Tinnon, J. B. ... 88
Wentworth, C. F. ... 1206
Ogburn, F., W. H. Metzger Jr. and P. A. Krasley
Use of Disodium M-Benzenedisulfonate as a Hardening Agent in a Watts Nickel Bath ... 285
Outdoor Exposure, Service and Accelerated Tests on Chromium Plated Bright Work, Correlation of, R. B. Saltonstall and D. R. Millage ... 637
Outline of the Chemistry Involved in the Process of Catalytic Nickel Deposition from Aqueous Solution, An, (Part IV), G. Gutzeit ... 63
Oxidation Characteristics of Tin-Plating Electrolytes, J. A. McCarthy ... 805

P

Photographic Reproduction on Anodized Aluminum, A. Jogarao, K. S. Indira and B. A. Shenoi ... 1365
Physiology and AES's Health and Strength, C. G. Borlet (Editorial) ... 147
Plated Coatings of Improved Durability, Decorative, D. M. Bigge ... 1263
Plating Buffed Zinc Die Castings, Practical Observations on, N. Ananiatis ... 1023
Plating Gold Selectively, Close Control Give Reproducible Values in, C. Dingeldein ... 1372
Plating Magazine: Half-Century After Birth, R. D. Wysong (Editorial) ... 7
Plating Nickel on Aluminum Alloys, Novel Process for, J. T. N. Atkinson ... 509
Plating of Carbonitrided Steel, Zinc, L. R. Kohan and H. T. Francis ... 1155
Plating Tank Drains That Meet Philadelphia Requirements, W. E. Graul ... 188
Polarographic Analysis of Gold and Gold Alloy Plating Solutions, The, A. E. Knotowicz and G. Tatoian ... 645
Poor, J. G., H. Chessin and C. L. Alderuccio
Adherence of Thick Chromium Deposits as Affected by Surface Preparation ... 811
Practical Observations on Plating Buffed Zinc Die Castings, N. Ananiatis ... 1023
Precision Instrument for Testing the Thickness of Electroplates by Electrolytic Stripping Method, A, P. B. Mathur ... 1274
Preparation and Properties of Iron-Nickel Films, The, I. Tau ... 632
President's Message, W. Andrew Wesley (Editorial) ... 895
Production of an Oscilloscope, Finishing Aluminum for the, A. E. Cook ... 933
Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process. IV. Use of Methanol as a Solvent in Cadmium Plating Solutions, S. W. Strauss and P. N. Vlannes ... 926
Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process. V. The Use of Pyridine as a Complexing Agent in Cadmium Plating Solutions, S. W. Strauss and P. N. Vlannes ... 1037
Pyridine as a Complexing Agent in Cadmium Plating Solutions, Use of. Part V. Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process, S. W. Strauss and P. N. Vlannes ... 1037

R

Reid, W. E. Jr. and V. A. Lamb
Electrophoretic Deposition of Metals, Metalloids and Refractory Oxides ... 291
Research Committee Plans for a Research Conference, April 24–25, 1961 ... 1278
Role of Yellow Prussiate in Gold Plating Solutions, The, A. F. Mohrnheim ... 819

Page

S

Safranek, W. H., H. R. Miller and C. L. Faust
Corrosion Protective Characteristics of Decorative Chromium Plate, The ... 513
Safranek, W. H., H. R. Miller, R. W. Hardy and C. L. Faust
Data on the Corrosion Resistance of Electroplated Zinc Die Castings ... 405
Safranek, W. H. and R. W. Hardy
Use of Selenic Acid for Plating Microcracked, Protective and Decorative Chromium Plate ... 1027
Saltonstall, Dr. R. B. and D. R. Millage
Correlation of Outdoor Exposure, Service and Accelerated Tests on Chromium Plated Bright Work ... 637
Sample, C. H.
The Contribution of Nickel and of Chromium to the Durability of Decorative Plating ... 297
Schumacher, B. W. and R. Kriegler
Thickness Measurements on Platings by Means of an Electron Probe ... 393
Schurig, W. F. and M. A. Blumenfeld
Constant Wattage Hard Anodizing of Aluminum ... 1159
Scientific Achievement Award for 1960 to Dr. C. L. Faust ... 941
Sealing of Anodized Aluminum and Its Alloys, Superior, C. C. Cohn and H. Sosson ... 917
Second Annual Metropolitan Regional Assembly ... 1280
Selenic Acid for Plating Microcracked, Protective and Decorative Chromium Plate, Use of, W. H. Safranek and R. W. Hardy ... 1027
Shenoi, B. A., A. Jogarao and K. S. Indira
Photographic Reproduction on Anodized Aluminum ... 1368
Sosson, H. and C. C. Cohn
Superior Sealing of Anodized Aluminum and Its Alloys ... 917
Sperry, L. B.
Evaluation of Modern Methods of Improving the Corrosion Resistance of Plated Zinc Base Die Castings ... 396
Spring Steel, Hydrogen Embrittlement of Cadmium Plated, J. A. Gurklis, L. D. McGraw and C. L. Faust ... 1146
Strauss, S. W. and P. N. Vlannes
Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process. IV. Use of Methanol as a Solvent in Cadmium Plating Solutions ... 926
V. Use of Pyridine as a Complexing Agent in Cadmium Plating Solutions ... 1037
Sulfate in Chromium Plating Solutions, Determination of, G. J. McKinley and A. Q. Jones ... 634
Superior Sealing of Anodized Aluminum and Its Alloys, C. C. Cohn and H. Sosson ... 917
Surface Preparation, Adherence of Thick Chromium Deposits as Affected by, J. G. Poor, H. Chessin, and C. L. Alderuccio ... 811
Surface Preparation on the Tensile Strength, Hardness and Adhesion of Electrodeposited Nickel, The Effect of, P. A. Brook ... 1269

T

Tarnish Resistance of Gold Plating Over Silver, The, W. B. Harding ... 1141
Testing, Accelerated Corrosion, A. Frank ... 623
Testing the Thickness of Electroplates by Electrolytic Stripping Method, A Precision Instrument for, P. B. Mathur ... 1274
Tests on Chromium Plated Bright Work, Correlation of Outdoor Exposure, Service and Accelerated, R. B. Saltonstall and D. R. Millage ... 637
Thick Chromium Deposits, Adherence of as Affected by Surface Preparation, J. G. Poor, H. Chessin and C. L. Alderuccio ... 811
Thickness of Electroplates by Electrolytic Stripping Method, A Precision Instrument for Testing the, P. B. Mathur ... 1274
Thickness Measurements on Platings by Means of an Electron Probe, R. Kriegler and B. W. Schumacher ... 393
Tin Plating Electrolytes, Oxidation Characteristics of, J. A. McCarthy ... 805
Tin-Plate Wood Grain, Factors Producing, R. F. Higgs and J. A. McCarthy ... 1255
Tau, I.
The Preparation and Properties of Iron-Nickel Films ... 632

U

Use of Disodium M-Benzenedisulfonate as a Hardening Agent in a Watts Nickel Bath, W. H. Metzger Jr., P. A. Krasley and F. Ogburn ... 285
Use of Methanol as a Solvent in Cadmium Plating Solutions. Part IV. Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process, S. W. Strauss and P. N. Vlannes ... 926
Use of Pyridine as a Complexing Agent in Cadmium Plating Solutions. Part V. Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process, S. W. Strauss and P. N. Vlannes ... 1037
Use of Selenic Acid for Plating Microcracked, Protective and Decorative Chromium Plate, W. H. Safranek and R. W. Hardy ... 1027

V

Vlannes, P. N. and S. W. Strauss
Progress Toward the Development of a Nonembrittling Cadmium Electroplating Process. V. Use of Pyridine as a Complexing Agent in Cadmium Plating Solutions ... 1037
IV. Use of Methanol as a Solvent in Cadmium Plating Solutions ... 926

W

Watts Nickel Bath, Use of Disodium M-Benzenedisulfonate as a Hardening Agent in a, W. H. Metzger Jr., P. A. Krasley and F. Ogburn ... 285
Wesley, W. A.
What Good is Theory? (Editorial) ... 255
President's Message (Editorial) ... 895
What Good is Theory? W. A. Wesley (Editorial) ... 255
Wysong, R. D.
Evolution (Editorial) ... 773
Plating Magazine: Half-Century After Birth (Editorial) ... 7

Y

Yellow Prussiate, The Role of in Gold Plating Solutions, A. F. Mohrnheim ... 819

Z

Zinc and Cadmium Electroplate for Corrosion Protection of Major Appliance Components, Choosing Between, S. J. Beyer ... 1361
Zinc Die Castings, Data on the Corrosion Resistance of Electroplated, W. H. Safranek, H. R. Miller, R. W. Hardy and C. L. Faust ... 405
Zinc Die Castings, Practical Observations on Plating Buffed, N. Ananiatis ... 1023
Zinc Plating of Carbonitrided Steel, L. R. Kohan and H. T. Francis ... 1155

ARTICLE REFERENCES

A

Acid Treatment
Chemical Deburring Solves Problems for A.C. Spark Plug, G. H. Poll Jr. ... 224
Low-Cost Chemical Milling Shapes Honeycomb Cores ... 224
Adhesion
Science for Electroplaters 60. Causes of Poor Adhesion, L. Serota ... 1344
Administration
Calculating Metal-Finishing Costs, B. Gaida, 1st Installment ... 224
Calculating Metal-Finishing Costs, B. Gaida, 2nd and 3rd Installment ... 272
Alloys
Bridged Complexes and the Deposition of Tin-Nickel Alloys, Robert L. Rau and J. C. Bailar Jr. ... 1242
Bronze Plating Solves Finishing Problems, F. A. Lowenheim ... 968
Nickel-Aluminum Alloy Coatings Produced by Electrodeposition and Diffusion, D. E. and J. H. Connor ... 614
Nickel-Aluminum Alloy Coatings Resist Corrosion at 1000C ... 1344
Aluminum
Sealing Anodized Aluminum, J. M. Kape 1087
Sealing Anodized Aluminum—Sodium Sulfite Immersion Test, W. E. Cooke and R. C. Spooner ... 1087
Analysis
Determination of the Sulphate Content of Chromium Plating Solutions by a Combustion Method, R. St. J. Emery ... 1087
Anodizing
Decorative Anodizing in Great Britain, P. F. Walmsley ... 272

Page

How to Write Specifications for Anodized Finishes, R. V. Vanden Berg ... 556
Sealing Anodicoxide Coatings, S. Wernick and R. Pinner ... 224
Sealing Anodized Aluminum, F. Pearlstein ... 1199
Techniques for Coloring Anodized Aluminum, R. V. Vanden Berg ... 384, 556

B

Buffing
Economy in Buffing and Polishing—A Water Pitcher ... 224
Improved Buffing Techniques, A. Badaluco, W. L. Morgan, P. A. Waalkes and E. A. Blount ... 1199

C

Chemical Conversion
Conversion Coatings Phosphate Films, L. F. Spencer ... 224
Chemical Conversion of Metal Surfaces for Improved Corrosion Resistance, R. F. Ayres ... 1242
Chemical Milling
Chemicnl Milling at Work, Lew B. Stearns ... 1087
Chemical Polishing
Chemical and Electrolytic Polishing, F. H. Wells ... 1087
Recent Trends in Electro and Chemical Polishing, R. Pinner ... 1087
Chromium
Chromium Plating on Titanium Alloys, C. Levy ... 865
Controlled Deposits of Hard Chromium, J. D. Greenwood ... 1242, 1344
Electrodeposition of High-Purity Chromium from Electrolytes Containing Fluoride or Fluosilicate, N. Ryan ... 865
Equi-Hardness Curves for Chromium Plate in Relation to Temperature and Current Density, G. Rousselot ... 1088
French Conference on Hard Chromium Plating ... 1242
Metal-Spraying by Pistol, and Hard-Chromium Plating, R. deBuyer ... 1088
On the Deposition of Chromium from Complex Chromium Sulphate Solutions, W. Machu and M. F. M. El-Ghandour ... 1087
Phosphating, Electropolishing and High-speed Chromium Plating in Buffer Production, H. L. Watts ... 384
Practical Aspects of Hard Chromium Plating, C. F. Corfe ... 384
Practical Lower-Cost Process Diffuses Chromium Into Steel, The Iron Age ... 384
Some Recent Trends in Chromium Plating, S. Ramachandran ... 272
Cleaning
Alkaline Cleaning of Metals—Part I—Cleaner Formulations and Cycles ... 224
Link Cleaning and Degreasing to Production Machining ... 865
Practical Advice for Electro-Cleaning With Simultaneous Copper Plating, R. Grauer ... 614
Selecting Equipment, Maintenance Requirements and Costs—Part II ... 224
Ultrasonic Cleaning of Shotblasted Strip, H. F. Osterman and J. E. Ehrhardt ... 1087
Ultrasonic Pickling Cleans Turbine Engine Parts ... 865
Coating
Chromize Bolts and Tubing with Gaseous Compound, G. Becker ... 224
Coatings, Non-Organic
Conversion Coatings—Oxide Films, L. F. Spencer ... 614
Formation of Hard Films on Zinc and Zinc Alloys by Electrolytic Processes, N. F. Murphy ... 614
The Growth of Anodic Oxide Films on Germanium, S. Zwerdling and S. Sheff ... 614
Nickel Process Makes Patterns Without Costly Machining ... 614
Titanium Coatings Are Deposited by Vacuum Metallizing Process ... 614
Tungsten Is Plated on Metal Surfaces by Vapor Deposition ... 614
Control
Acid Dip Concentration Control—Calculation and Adjustment of Per Cent by Volume, G. N. Mandel ... 865
Analysis of Cyanide Zinc Baths—Rapid Determination of Metal and Total Cyanide, A. Salka ... 865
Conversion Coatings
Chromate Conversion Coatings for Corrosion Protection, Good Appearance, Paint Base and Electrical Conductivity, C. W. Ostrander ... 1199
Conversion Coatings Chromate Films, L. F. Spencer ... 272
Copper Plating
Direct Copper Plating of Iron from Acid Solutions Containing Surface Active Compounds, L. I. Antropov ... 224
Science for Electroplaters. 52. Copper Plating—IV, L. Serota ... 224
Corrosion
Air Treatment—The Prevention of Corrosion in Storage, Part 2, L. Walter ... 384
Are Hydrogen Ions the Culprits that Cause Metal Corrosion? ... 1199

Page

Corrosion Control Applications of Electroless Process for Chemical Nickel Plating ... 865
Corrosion of Nickel Coated Mild Steel, B. C. Banerjee ... 384
The Corrosion Resistance of Copper-Nickel-Chromium Systems, A. H. Du Rose and R. T. F. McManus ... 224
Corrosion Resistance of Tantalum—Applications in the Chemical Industry, F. G. Cox ... 968
Design and Interpretation of Atmospheric Corrosion Tests, H. R. Copson ... 224
Deterioration of Materials in Polluted Atmospheres, J. E. Yocom ... 224
Effect of Oxygen on the Active-Passive Behavior of Stainless Steel, N. D. Greene ... 865
Electrode Potentials and Corrosion, W. F. Higgins ... 224
Galvanic Relationships Between Aluminum Alloys and Magnesium Alloys. Part I—Galvanic Couples. Part II—Aluminum Claddings on Magnesium, M. R. Bothwell ... 224
Inhibition of Acid Attack on Steel by Heavy Metal Ions, J. A. Shropshire ... 1242
Materials Deterioration in the Atmosphere ... 224
Mechanisms by Which Ferrous Metals Corrode in the Atmosphere, C. P. Larrabee ... 224
Mechanisms by Which Non-Ferrous Metals Corrode in the Atmosphere, P. M. Aziz and H. P. Godard ... 224
Relation Between Coating Thickness and Protection—Effect of Porosity and Physical and Structural Changes on Corrosion Resistance, L. I. Kadaner and A. Kh. Masik ... 968
Stainless Steels and Related Alloys Versus Marine Environments, J. C. Rowlands ... 384
Studies on Cathodic Protection Using the Hull Cell. 1. Action of Corrosion Inhibitors, K. S. Rajagopalan and Y. V. P. Ramachandra Row ... 865

D

Degreasing
How to Get the Most from Solvent-Vapor Degreasing—Part I, T. J. Kearney and C. E. Kircher ... 614
How to Get the Most from Solvent-Vapor Degreasing—Part II, T. J. Kearney and C. E. Kircher ... 865

E

Electrodeposition
Experiences in the Decorative Plating of Zinc Alloy Die-Cast Components, J. Chadwick ... 1087
Procedures for Electroplating Coatings on Refractory Metals, J. G. Beach and J. A. Gurklis ... 1088
Electroforming
Electroforming a Liner for March-6 Wind Tunnel, G. E. Sutila ... 556
Electroless Nickel
Heat Treating Electroless Nickel Coatings, K. T. Kiehlke, W. S. Dritt and C. H. Mahoney ... 384
Electroplating
Barrel Plating, F. J. LaManna ... 1242
Barrel Plating Solutions, F. J. LaManna ... 1344
The Electrodeposition of Copper, Nickel and Bi-Metal Sheets, E. Carrington ... 556, 614
Electrodeposition of Metals from Aqueous Fluoride Solutions, A. N. Kappanna and E. R. Talaty ... 224, 614
Fluoborates in Plating, F. Wild ... 1344
Science for the Coatings Technologist, Part XIV. Additives: Surfactants, E. S. Beck ... 384
Science for Electroplaters. 53. Complex Cyanide Baths, L. Serota ... 224
Vapor-Phase Plating with Molybdenum and Tungsten, H. W. Schultze ... 224
X-Rays Check Plating Thickness—Emission and Absorption Methods Evaluate Wear and Porosity, R. H. Zimmerman ... 1344
Electropolishing
The Anodic Dissolution and Electrolytic Polishing of Metals, J. K. Higgins ... 224
Electropolishing—A Multipurpose Process, H. W. Bredin ... 1087
Electropolishing of Aluminum, Review and Literature Survey, A. F. Mohrnheim ... 33
Russian Practice in Electropolishing Steel, N. P. Fedot'ev and S. Ya. Grilikhes ... 614
Engineering
Applying Water Conservation Methods in GM Plants, D. Milne ... 33
Coolers and Heaters for Anodizing, B. S. Rowland, A. Korest and J. W. Peterson ... 224
Electrical Installation in Corrosive Environments, R. P. Northrup ... 272
Equipment for Electropolishing, N. P. Fedot'ev an S. Ya. Grilikhes ... 1294
Internal Surface Plating of a Large Stainless Steel Vessel, N. Rain and S. A. Self ... 1242
Is Your Plating Rectifier Defective? R. J. Darrah ... 1344

Page

Non-Contacting Lineal System Programs Tin-Plate Line ... 968
A Plant Designed with the Finishing Department in Mind, E. A. Blount ... 1242
Steam: Its Production, Control and Application in Metal Finishing, G. Saxby ... 1344
Engineering and Maintenance
Adolph Plating: A Mechanized Job Shop, E. A. Blount ... 224
Analysis of Industrial Roof Construction and Maintenance, J. C. Lemmon and W. G. Craig ... 224
Clean, Phosphatize and Paint Metal Parts in Compact Unit ... 224
G.E. Installs Giant Flow Coating System, J. A. Kinn ... 224
Experimental
Vapor-Deposition Method Produces Adherent Tungsten Coatings ... 968

F

Filtration
Smooth Copper and Nickel Deposits, D. R. Newman ... 33
Finishing
Abrasive Belt Lengths Standardized ... 1407
Barrel Finishing: Materials and Techniques for Precision Results, D. Mosher, F. Soper and T. Loll ... 224
Calculating Metal Finishing Costs. 5th Installment, B. Gaida ... 556
Can Power Brushing Help You in Finishing? ... 614
Coated Abrasives Slash National Cash Register Finishing Costs ... 33
Finishes Without Removing Metal ... 224
Flat Polished Sheet for Auto Bumpers ... 556
Fundamental Considerations in Polishing and Buffing, L. F. Spencer ... 33
Grinding and Polishing with Abrasive Belts, W. K. Seward ... 33
How's Your Buffing Average? S. Sax ... 556
Improved Buffing Techniques. Part II, J. A. Badaluco, W. L. Morgan, P. A. Waalkes, and E. A. Blount ... 968
Modern Polishing and Buffing, S. P. Sax ... 1407
Precise Barrel Finishing, R. F. Enyedy ... 1087
Precise Barrel Finishing. Part II, R. F. Enyedy ... 1199
Precise Barrel Finishing, R. F. Enyedy ... 1294
Progress in Liquid Polishing Compositions, H. Silman ... 968
Progress in Polishing ... 272
Relief of Residual Grinding Stresses, R. O. Lane ... 1407
Science for Electroplaters. 59. Cause of Poor Adhesion, L. Serota ... 1199
Super Finishing Copper Cylinders—Russian Research, A. J. Steiger ... 1199
Why Honing? M. M. Patterson ... 865

G

Gaging
Gages for Volume Production; Ultrasonic and Optical Gaging, R. McKee ... 224
Gold
Thickness and Hardness Measurements on Gold Deposits, G. A. Wilson ... 968
Grinding
How to Apply Safety to Portable Grinding, D. S. Linton and R. Allchin ... 33

H

Hard Coating
New Anodic Process Hardcoats Aluminum Parts at High Speed, The Iron Age ... 384
Health and Safety
Platers Offer Prescription for Cyanide Sores and "Nickel Itch" ... 614

I

Iron
Effects of Plating Conditions on the Structure and Wear Resistance of Iron Electrodeposits, Iu. N. Petrov ... 384

L

Laboratory
Where to Use Microhardness Testing, V. A. Lysaght ... 1294

M

Magnesium
Factors in Successful Plating on Magnesium, J. P. Levy ... 33
Maintenance
Chemical-Resistant Flooring Based on Epoxy Resins, H. R. Touchin ... 33
An Investigation of Nonmetallic Pipe for Use With Liquid Corrosives, Corrosion ... 384
Plastic Pipes for National Lock's New Plating Department ... 33
Polyester and Epoxy Resins for Chemical Plant Repairs ... 614
Management
Calculating Metal Finishing Costs. 4th Installment, B. Gaida ... 384
Calculating Metal Finishing Costs. 6th Installment, B. Gaida and B. B. Joffe ... 614
Calculating Metal Finishing Costs. 7th Installment, B. Gaida ... 968

Page

Calculating Metal Finishing Costs. 8th Installment, B. Gaida ... 1087
Calculating Metal Finishing Costs. 10th Installment, B. Gaida ... 1294
Calculating Metal Finishing Costs. 11th Installment, B. Gaida ... 1407
Controlling Abrasive Costs, C. F. Brown ... 224
Do You Appreciate the Dilemma of Depreciation? I. Elbaum ... 224
Standard Time Data for Grinding. Part I, E. A. Cyrol and R. L. Borck ... 224

Metal Coating
Immersion Plating on Zircaloy-2, L. R. Kohan ... 224

Metal Spraying
The Reclamation of Worn Components for Glass Bottle Manufacturing Machines, P. H. Marshall ... 33

Miscellaneous
Automatic Plating of Ironmongery ... 556
Electroplating Metal Contacts on Germanium and Silicon, D. R. Turner ... 33
Finishing High Performance Naval Aircraft, G. F. Bentinck and A. E. Hohman ... 1407
Finishing Pointers—Silverplating of Electrical Contacts by Immersion, I. Geld ... 1199
Finishing Pointers—Specific Gravity Equations, J. B. Mohler ... 272
Gas Plating, C. F. Powell ... 384
German Plating Conference at Schwabischgmund, R. Pinner ... 384
Hot-Dipped Metallic Coatings, J. H. Nicholls ... 865
How to Finish Magnesium, Dr. J. A. Stevens ... 1199
Institute of Metal Finishing Annual Conference, 1960 ... 968
Institute of Metal Finishing Conference, Scarborough 1960, R. Pinner ... 1199
Measuring Loads for Flat Pieces by Area, G. C. Field ... 614
Measuring Plating Loads for Round Head Steel Screws, G. C. Field ... 865
Plating Anodes, D. J. Fishlock ... 1088
Porcelain Enamel Adherence Studies, N. F. Murphy ... 1199
Science for Electroplaters—58. Adhesion, L. Serota ... 968
Science for Electroplaters—60. Causes of Poor Adhesion, L. Serota ... 1294
Surface Films on Annealed Stainless Steels, J. H. Waxweiler ... 1294
Weights and Loads of Parts Made of Various Metal Bars, G. C. Field ... 33

N

Nickel
The Adhesion of Electrodeposited Nickel to Chromium at Elevated Temperatures, W. E. Reid Jr. and F. Ogburn ... 384
Effect of Rotation of Cathode on Nickel Plating from Watts Bath, K. C. Narasimham and H. V. K. Udupa ... 614
Further Studies of Leveling Using Radiotracer Techniques, S. E. Beacom and B. J. Riley ... 1294
The Incorporation of Sulfur in Electrodeposited Nickel, Using Thiourea as a Brightener and Leveler, G. T. Rogers and M. J. Ware ... 1199
Porosity of Nickel Coatings, A. L. Rotinyan, N. P. Fedot'ev, E. E. Mishchenkova and De Du-kho ... 225
The Relationship Between Brightness and Structure in Electroplated Nickel, R. Weil and R. Paquin ... 384
Some Investigations Into Bright Finishing in Nickel Baths and the Influence of Impurities, A. Chaybany ... 1088
Some Problems of an Accelerated Nickel Plating Process, L. Domnikov ... 556
Thermal Shock Resistant Plating on Beryllium, L. Missel ... 556

O

Organics
A Critical Review of Paint Application Methods. Part 2, J. H. Ousbey ... 1407
A More Versatile Source of Infrared Heat, W. H. Tomb ... 865

Page

Application of Epoxy Resin-Based Coatings in Corrosive Environments, H. Brull ... 225
Assessment of Paint Durability—Accelerated Weathering Versus External Exposure, S. K. Bose and S. N. Mukerji ... 1087
Characteristic Properties of Polyurethane Protective Coatings ... 272
Conveyorized Finishing of Offic Furniture, E. Fritz ... 225
Electrostatic Paintings: What ... Is, What It Can Do, J. H. Rice ... 1407
Epoxy Resins in Anti-Corrosive Applications, P. A. Dunn ... 225
Epoxy Resin Reusable Paint Spray Masks Simplify Production, J. Delmonte ... 385
Fluidized Bed Coating—Solution to Difficult Finishing Operation, W. R. Pascoe ... 225
How Westinghouse Paints Circuit Breakers, E. J. Gagliardi and W. W. Webber ... 1294
Infra Red Baking of Organic Finishes, G. J. Marotta ... 225
Koch Uses Hand-Held Electrostatic Gun to Coat Brass Furniture, D. F. Neubling ... 968
Lacquering Techniques for Vacuum Metalizing on Metals and Thermosetting Plastics, M. A. Self ... 865
Masonry and Concrete Corrosion Reduction by Silicone Treatment ... 1087
Multicolor Coatings for Corrosion Protection, N. I. Gaynes ... 225
Nonflammable Painting Processes Reduce Costs, F. G. Schumacher ... 272
Paint Finishes on Telecontrol Systems and Apparatus, L. Holyday ... 272
Paint Stripping Technology Today, L. J. Durney ... 556
Panel Discussion of Painters' Problems ... 968
Polyester Fiber Glass Equipment, R. E. Barnett and T. F. Anderson ... 272
Polyester-Glass Coating Resists Corrosion Inside Metal Tank ... 865
A Review of Solventless Coatings with Plastics, H. K. Neumann ... 385
Rust Inhibition Through Calcium Plumbate Pigment, H. C. Wesson ... 556
Science for Electroplaters—55. Cyanide Copper Analysis, L. Serota ... 556
Science for the Coatings Technologist. Part XV. Dispersion, E. S. Beck ... 615
Setting Up a Paint Stripping Installation, K. J. Pfeffer ... 1294
Sprayable Vinyl Coatings ... 615
Spray-Applied Decorative Dispersion Coatings for Metal Products, H. Preuss ... 865
Stress in Electrodeposited Metals, I. L. Newell ... 1407
Synthetic Resins—The Backbone of Modern Finishes, H. P. Preuss ... 968
Synthetic Resins—The Backbone of Modern Finishes. Part II—Silicones, H. P. Preuss ... 1087
Synthetic Resins—The Backbone of Modern Finishes. Part IV—Urea Resins, H. J. Preuss ... 1294
Synthetic Resins—The Backbone of Modern Finishes. Part V—Fluorocarbon Resins, H. P. Preuss ... 1407
Take Another Look at Airless Spray, D. P. Voline ... 225
Those Versatile Vinyls, G. H. Poll Jr. ... 225
Traveling Booth for Spraying Railroad Cars, Z. Cook ... 225
Vacuum Metallizing: New Developments, New Uses ... 1407
When to Consider Automatic Spray Equipment, W. Beach ... 225

P

Palladium
Palladium Plating of Printed Circuits, J. E. Philpott ... 385

Pickling
Pickling Before Electroplating, N. P. Fedot'ev and S. Ya. Grilikhes ... 1087
Ultrasonic Pickling at Lycoming, E. Sietz ... 1087

Platinum
Bright Platinum Plating—A New Electrolyte Yielding Heavy Deposits, N. Hopkins and L. F. Wilson ... 615

Production
Replating Battered Bumpers, G. H. Poll Jr. ... 225

Page

Properties
Fabricating Qualities of Pre-Finished Metals, F. P. Romanoff ... 385

R

Research and Development
High Current Electronic Interrupter for the Study of Electrode Processes, W. E. Richeson and M. Eisenberg ... 1087
Methods for Investigating the Characteristics of Reactive Coatings, M. Kronstein ... 225

S

Standards
Electroplated Nickel Chromium ... 272

Surfactants
Science for the Coatings Technologist. Part XIV. Additives: Surfactants, E. S. Beck ... 225

T

Testing
European Paint-Hardness Testers Versus the Sward Rocker, M. Dierckx ... 865
Testing of Protective Coatings for Metals. Part I, W. E. Kirkendall ... 615
Testing Plating Durability—The Copper-Accelerated Acetic Acid Test, G. L. Sukes ... 225

Theoretical
Current Distribution Problems. Solution by Analogical Methods, Dr. R. H. Rousselot ... 272
An Electron Microscopic Study of the Formation of Oxide on Copper Single Crystals Immersed in an Aqueous Solution of Copper Sulfate, G. T. Miller Jr. and K. R. Lawless ... 272
Hydrogen Behavior in Steel, R. M. Hudson, K. J. Riedy and G. L. Stragand ... 615
The Oxide Films Formed on Copper Single Crystal Surfaces in Pure Water. 1. Nature of the Films Formed at Room Temperature, J. Kruger ... 272
Structure and Wear Resistance of Electrodeposited Ferrous Coatings. Effect of Electrolysis Conditions, Iu. N. Petrov ... 274
Study of Chelate Formation by Electrical Conductivity Method, A. K. Bhattacharya ... 272

Titanium
The Electrochemical Behavior and Passivity of Titanium, M. Stern and H. Wissenberg ... 385

Tungsten
Effect of Addition Agents of Tungsten Codeposition, J. S. Sallo and R. D. Fisher ... 615

V

Vacuum Coating
Vapour Plating by Vacuum Evaporation, B. J. Williams ... 1087

W

Waste Disposal
Continuous and Batch Treatment of Industrial Wastes, E. F. Druschel, J. F. Zievers and W. Zabban. No. 3 ... 615
Continuous and Batch Treatment of Industrial Wastes, E. F. Druschel, J. F. Zievers and W. Zabban. No. 4 ... 615

Waste Treatment
Treatment of Combined Finishing Wastes, A. G. Winger ... 274

Z

Zinc
Ultrasonics in Zinc Electroplating, Effect on Elastic Properties of Steel, L. Domnikov ... 1087

Zinc and Alloys
Electroplating of Zinc and Its Alloys from the Pyrophosphate Bath, T. L. Rama Char ... 385

Zirconium
Electroplating on Zirconium, N. F. Murphy ... 385

PATENT ABSTRACTS

A

Alloys
Bright Dippings Zinc Base Alloys—2,904,413, 9/15/59—K. Hempel ... 716
Deposition of Fe-Cr Alloy—2,938,842, 5/31/60—H. Nitto ... 1195
Descaling Nickel Alloys—2,913,360, 11/17/59—D. Zaremski and J. Beigay ... 957
Flame Spraying an Alloy—2,908,589, 10/13/59—G. Gutzeit and J. Spraul ... 748
Plating Copper Alloys—No. 2,886,500, 5/12/59—C. Faust ... 103
Tin-Nickel Alloy Plating—2,926,124, 2/23/60—R. Taylor and R. Phillips ... 954

Aluminum
Activation of Aluminum—No. 2,892,738, 6/30/59—E. Dobratz ... 331
Aluminum Chromating Process—2,928,763, 3/15/60—W. Russell ... 1075
Aluminum Cleaning Composition—2,907,649, 10/6/59—B. Berkeley and A. Petersen ... 747
Aluminum Coated Steel—2,917,818, 12/22/59—R. Thompson ... 974
Aluminum Coated Strip—2,906,641, 9/29/59—W. Bugbee and P. Clough ... 718
Aluminum Coating—2,909,455, 10/20/59—N. Newhard and D. Dollman ... 825
Aluminum Coating—2,916,397, 12/8/60—A. Chin ... 957
Aluminum Coating Process—2,927,043, 3/1/60—A. Stetson ... 1073
Aluminum Coating Steel—No. 2,898,251, 8/4/59—R. Treder and W. Batz ... 550
Aluminum Etchant—2,931,713, 4/5/60—N. Newhard Jr. and D. Dollman ... 1086
Aluminum Plating—2,929,739, 3/22/60—E. Breining ... 1075
Aluminum Surface Coatings—No. 2,898,250, 8/4/59—G. Pimbley ... 550
Aluminum Treatment—2,945,778, 7/19/60—R. Lipinski ... 1398

Page

Aluminum Treatment—2,948,643, 8/9/60—G. Pimbley ... 1399
Bonding Carbon to Aluminum—2,920,385, 1/12/60—R. Fike and A. Pilous ... 1070
Coating Aluminum—No. 2,894,852, 7/14/59—H. McMorris and F. McCall ... 441
Coating Aluminum—No. 2,894,865, 7/14/59—M. Pryor ... 442
Coating Metallic Bodies with Aluminum—No. 2,886,469, 5/12/59—E. Fitzer ... 102
Conversion Coating Baths for Aluminum—2,936,254, 5/10/60—N. Newhard and D. Dollman ... 1195
Decorative Aluminum Surface—2,941,930, 6/21/60—N. Mostovych and W. Mitchell ... 1295
Hot Dip Aluminizing—No. 2,890,134, 6/9/59—H. Linden and D. Mitchell ... 328
Method of Aluminization—2,935,419, 5/3/60—D. Mitchell ... 1193
Production of Aluminum—2,939,824, 6/7/60—E. W. Greenfield ... 1196
Sealing of Anodized Aluminum—No. 2,888,388, 5/26/59—F. Stitler ... 219
Soldering Aluminum—2,907,104, 10/6/59—J. Brown and E. Newton ... 747
Wetting Compound for Anodized Aluminum—2,924,539, 2/9/60—H. Arndt and H. Seiler ... 954

Anodes
Anode—2,940,917, 6/14/60—J. R. Dyson ... 1196
Electroplating Anode—2,929,769, 3/22/60—I. Newell and Zavarella ... 1086

Anodizing
Anodizing—2,905,600, 9/22/59—J. Franklin ... 718
Anodizing Aluminum—No. 2,897,125, 7/28/59—J. Franklin ... 550
Anodizing Aluminum—2,901,412, 8/25/59—N. Mostovych and A. Cybriwsky ... 714
Anodizing Aluminum—2,918,416, 12/22/59—P. Taylor ... 1070
Anodizing Process—2,920,018, 1/5/60—M. Miller ... 1070

B

Boron
Boron—2,918,417, 12/22/59—H. Cooper and J. Schaefer ... 1070
Electrorefining Boron—2,940,911, 6/14/60—A. A. Uchiyama ... 1196
Production of Boron—No. 2,892,762, 6/30/59—D. Stern and O. McKenna ... 331

Brighteners
Aluminum Brightener—2,942,956, 6/28/60—D. R. Kelly ... 1295
Brightener—2,932,610, 4/12/60—R. Robinson ... 1192
Brighteners for Electroplating Baths—2,910,413, 10/27/59—W. Strauss and H. Wedell ... 825

Buffing and Polishing
Buff—No. 2,886,924, 5/19/59—A. Rock ... 103
Buff—2,920,428, 1/12/60—E. Hall and A. Rock ... 1070
Buffing Compound Inhibitor—No. 2,897,075, 7/28/59—P. Gibson and B. Bogdanoff ... 549
Buffing Compound—2,904,419, 9/15/59—E. Couch and E. Candee ... 716
Buffing Wheel—No. 2,885,834, 5/12/59—A. Rock ... 102
Buffing Wheel—2,940,225, 6/14/60—F. E. Hendrickson ... 1196
Buffing Wheel—2,943,426, 7/5/60—C. Schlegel ... 1296
Buffing Wheel—2,913,856, 11/24/59—E. Carlton ... 957
Buffing Wheel Spindle—2,947,122, 8/2/60—O. Thiel ... 1399
Lime Buffing Compounds—No. 2,899,289, 8/11/59—L. High ... 712
Polishing Wheels—2,945,750, 7/19/60—E. Garcia ... 1398
Sisal Buff Impregnation Method—No. 2,890,136, 6/9/59—D. Hanna ... 330

C

Cadmium
Acid Cadmium Plating—No. 2,893,934, 7/7/59—L. Westbrook ... 441
Cadmium and Zinc Bright Dip—2,904,414, 9/15/59—C. Ostrander and N. Congiundi ... 716
Cadmium Plating—2,938,840, 5/31/60—S. W. Strauss and P. N. Vlannes ... 1195
Cadmium Plating—No. 2,892,761, 6/30/59—W. Hamilton and E. Simon ... 331
Cadmium Plating—2,912,370, 11/10/59—A. Taverna ... 856

Chromium
Chromium Alloy Plating—2,927,066, 3/1/60—G. Schaer ... 1074
Chromium Plating—2,916,424, 12/8/59—J. Stareck ... 974
Chromizing—No. 2,899,332, 8/11/59—G. Samuel ... 713
Chromizing—2,921,877, 1/19/60—G. Samuel ... 1073
Extraction of Chromium, Molybdenum and Tungsten—2,923,672, 2/2/60—G. Ervin and H. Ueltz ... 954
Porous Chromium—2,947,674, 8/2/60—J. Andrisek and T. Gill ... 1399

Cleaning
Cleaning and Plating Ferrous Metals—2,915,444, 12/1/59—W. R. Meyer ... 957
Cleaning Composition—2,901,433, 8/25/59—S. Spring ... 716
Cleaning Titanium—2,936,270, 5/10/60—H. Webster and R. Devane ... 1195
Di-Phase Cleaning System—2,923,648, 2/2/60—R. K'burg ... 954
Electrolytic Cleaning of Metal—2,920,023, 1/5/60—C. D'Aquila and R. Bohue Jr. ... 1070
Method of Cleaning—2,939,826, 6/7/60—G. L. Gulick ... 1196

Coatings
Article Coating—2,911,345, 11/3/59—T. Swenson ... 856
Coating—2,926,123, 2/23/60—S. Simon and N. Katz ... 954
Coating—No. 2,887,419, 5/19/59—C. Baer ... 218
Coating and Working Metal—No. 2,893,115, 7/7/59—F. McCawley ... 440
Coating Anodized Copper Wire—2,928,776, 3/15/60—H. Puppolo ... 1075
Coating Metal—No. 2,888,391, 5/26/59—W. F. Laughman ... 328
Coating Metal—2,911,332, 11/3/59—L. Shuster and A. Boldi ... 825
Coating Metals—2,918,388, 12/22/59—G. Moller ... 1070
Coating Metals—2,935,420, 5/3/60—H. Linden ... 1193
Coating Method—2,901,408, 8/18/59—R. Townsend ... 714
Coating of Uranium and Thorium—2,915,417, 12/1/59—R. Potvin ... 957
Coatings on Titanium—2,934,480, 4/26/60—G. Slomin ... 1193
Coating Wire and Strip—2,914,419, 11/24/59—K. Ogunowski ... 957
Coating With Copper-Tellurium Compound—2,933,422, 4/19/60—W. A. Mason ... 1193
Corrosion-Preventing Coatings—2,935,422, 5/3/60—A. Chester and J. Stella ... 1194
Corrosion Resistant Coating—No. 2,891,884, 6/23/59—W. Rausch and W. Werner ... 330
Dyeing Anodic Coatings—2,927,872, 3/8/60—C. Cohn ... 1074
Electrophoretic Coatings—No. 2,894,888, 7/15/59—J. Shyne and W. Fletcher ... 549
Indium Oxide Coatings—2,932,590, 4/12/60—R. Barrett, et al. ... 1192
Metallic Protective Coating—2,900,707, 8/25/59—H. Brown ... 713
Process for Producing Aluminum Coatings—2,927,874, 3/8/60—G. Pimbley ... 1074
Protective Coating—2,926,111, 2/23/60—D. Schweitzer ... 954
Protective Coating—2,944,919, 7/12/60—I. Morris and F. Lombardo ... 1296
Protective Metal Coatings—2,930,712, 3/29/60—H. Homer and J. Whitacre ... 1086
Removing Organic Coatings—2,937,111, 5/17/60—G. Leithauser ... 1195
Solution for Coating Metals—2,927,046, 3/1/60—D. Andrade ... 1074

Copper
Acid Copper Plating—2,931,760, 4/5/60—L. Westbrook ... 1086
Conditioning Copper Plating Solution, 2,913,376, 11/17/59—H. McLeod ... 957
Copper Plating—No. 2,885,331, 5/5/59—H. McLeod and D. Swalheim ... 102
Copper Plating Anode—2,923,671, 2/2/60—G. Van Tillburg ... 954
Copper Plating Process—2,915,414, 12/1/59—H. Hilemn ... 957
Copper Refining—No. 2,888,390, 5/26/59—R. Lapee ... 328
Cyanide Copper Plating Bath—No. 2,891,896, 6/23/59—F. Nobel ... 330
Plating Copper—No. 2,887,442, 5/19/59—H. Van Oosterhaut ... 219

E

Electrodeposition
Electrodeposition of an Aluminum Coating—2,911,341, 11/3/59—R. Linden ... 825
Electrodeposition of Copper—2,916,423, 12/8/59—F. Passal ... 957
Electrodeposition of Tin—No. 2,870,070, 1/20/59—R. Higgs and C. Owen ... 218
Electrodeposition of Titanium—2,935,454, 5/3/60—Shin-Ichi Tokumoto ... 1194
Electrodeposition of Transition Metals—No. 2,894,886, 7/14/59—E. Wainer ... 442
Metal Electrodeposits—No. 2,892,760, 6/30/59—W. Gundell ... 331
Metal Electrodeposits—No. 2,893,932, 7/7/59—H. Haas ... 441
Metal Electrodeposits—2,905,602, 9/22/59—A. Kirstahler ... 718

Electrolytes
Aqueous Electrolytic Processes—2,913,377, 11/17/59—H. Brown ... 957
Electrolytes—2,941,929, 6/21/60—J. E. Lilienfeld ... 1295
Electrolytes—2,944,026, 7/5/60—P. Robinson ... 1296
Electrolytic Cell—2,928,889, 3/15/60—H. Linford and F. Bonner ... 1075
Electrolytic Polishing—2,904,479, 9/15/59—A. McCord and D. Spink ... 716
Electrolytic Processing—No. 2,899,369, 8/11/59—H. Slatin ... 713

Page

Electrolytic Shaping—2,946,731, 7/26/60—J. Falls ... 1399
Electrolytic Treatment of Slide Fasteners—2,911,346, 11/3/59—C. Cohn ... 856
Jet-Electrolytic Method for Configuring Bodies—2,913,383, 11/17/59—A. Topfer ... 957
Non-Acid Electrolyte—2,925,358, 2/16/60—G. DeMaio ... 954

Electroplating
Amphoteric Metal Electroplating Process—2,919,233, 12/29/59—G. Cox ... 1070
Antimony Plating—2,918,414, 12/22/59—G. Schaer ... 1070
Continuously Electroplating Strip—2,910,422, 10/27/59—K. Egge ... 825
Electroplating—No. 2,888,387, 5/26/59—A. Wasserman ... 219
Electroplating—2,944,945, 7/12/60—P. Allison ... 1296
Electroplating on Aluminum Wire—No. 2,891,309, 6/23/59—H. Fenster ... 440
Electroplating on Titanium—2,946,728, 7/26/60—W. Foisel and C. Ellmers ... 1399
Electroplating Zinc-Tin Alloys—No. 2,898,274, 8/4/59—E. Saubestre and A. Arnaut ... 712
Palladium Plating by Chemical Reduction—2,915,406, 12/1/59—R. Rhoda and A. M. Madison ... 957
Plating of Iridium—2,929,766, 3/22/60—J. Withers and P. Ritt ... 1086
Plating Method—2,916,806, 12/15/59—J. Pudvin ... 974
Plating Metallic Surfaces—No. 2,893,931, 7/7/59—C. Boyett ... 441
Plating Selected Region of n-Type Semiconductors—No. 2,893,929, 7/7/59—G. Schnable ... 440
Plating with Aluminum—2,934,478, 4/26/60—W. Schickner ... 1193

Electropolishing
Electropolishing—2,928,777, 3/15/60—G. Smith ... 1075
Electropolishing—2,935,455, 5/3/60—F. Swagler ... 1194
Electropolishing Uranium—No. 2,894,883, 7/14/59—D. Walker and R. Noland ... 442
Rotary Polishing Element—2,908,117, 10/13/59—E. Hall ... 747

Enameling
Enameling Aluminum—2,932,584, 4/12/60—D. Hubbell and E. Weaver ... 1086
Preparing Steel for Enameling—No. 2,886,498, 5/12/59—G. Shepard ... 103

Equipment
Abrading Device—2,912,803, 11/17/59—L. Simjian ... 856
Apparatus for Electrotypes—No. 2,890,992, 6/16/59—E. Hoehl ... 330
Apparatus for Mechanically Finishing Work Pieces—No. 2,899,777, 8/18/59—L. Davidson ... 713
Apparatus for Microscopic Observation of Electrolytic Operations—No. 2,891,897, 6/23/59—R. Zetzicke ... 330
Apparatus for Polishing Work Pieces—No. 2,891,357, 6/23/59—L. Davidson ... 330
Apparatus for Removing Metal—No. 2,895,814, 7/21/59—F. Clark ... 549
Buffing Apparatus—2,922,262, 1/26/60—D. Atkins ... 1073
Cleaning Machine—2,909,872, 10/27/59—T. Kearney and E. McNamara ... 825
Conveyor—2,921,008, 1/12/60—A. Hauck ... 1073
Conveyor—2,933,212, 4/19/60—P. Hauck ... 1192
Electrocleaning Apparatus—2,909,474, 10/20/59—R. Smith ... 825
Electrolytic Plating Apparatus—No. 2,895,888, 7/21/59—D. Varner ... 549
Electroplating Apparatus—2,923,675, 2/2/60—J. Round ... 954
Electroplating Apparatus—2,924,563, 2/9/60—W. Gray ... 954
Electroplating Apparatus—2,931,764,4/5/60—R. Pyles ... 1086
Electroplating Apparatus—No. 2,887,447, 5/19/59—Leslie Lancy ... 219
Electroplating Apparatus—2,939,828, 6/7/60—J. Hausner ... 1196
Electroplating Apparatus—No. 2,891,898, 6/23/59—W. MacLean ... 331
Electroplating Rack—2,916,431, 12/8/59—S. O'Connor ... 974
Electroprocessing Apparatus—2,928,402, 3/15/60—V. Finston and W. Kostner ... 1075
Fixture for Phonograph Record Blank—No. 2,890,160, 6/9/59—B. Hunting ... 330
Fixture for Phonograph Records—2,905,614, 9/22/59—L. Porrata and E. Porterfield ... 718
Jet Spraying Apparatus—2,920,001, 1/5/60—G. Smith and R. Kaffenberger ... 1070
Plating Apparatus—No. 2,886,505, 5/12/59—A. Singleton and T. Gill ... 103
Plating Apparatus—No. 2,887,210, 5/19/59—D. Borodin ... 103
Plating Apparatus—2,912,094, 11/10/59—J. Davis ... 856
Plating Apparatus—2,921,009, 1/12/60—C. Jenks and J. Niles ... 1073
Plating Machine—2,912,989, 11/17/59—D. Borodin ... 957
Plating Machine—2,944,953, 7/12/60—D. Borodin ... 1296
Plating Machine—2,945,579, 7/19/60—J. Barton ... 1398
R. Henson ... 712

Page

Plating Rack—2,911,347, 11/3/59—E. Plating Rack—No. 2,898,285, 8/4/59—Gutzmer 856
Plating Tank Connector—No. 2,890,991, 6/16/59—W. MacLean 330
Processing Apparatus—2,935,989, 5/10/60—P. Arnold 1194
Selective Plating Apparatus—2,924,564, 2/9/60—W. Jackson 954
Selenium Rectifier—2,908,592, 10/13/59—H. Storsche 825
Selenium Rectifier Plates—2,906,002, 9/29/59—H. Nagorsen and H. Schweickert 718
Strip Plating Apparatus—2,933,438, 4/19/60—L. Lancy 1193
Tank—2,933,443, 4/19/60—C. Parsons 1193
Tumbling Apparatus—2,912,800, 11/17/59—R. Smith Gorman 856
Unloading Device—No. 2,898,283, 8/4/59—L. Howard 712
Work Handling Apparatus—No. 2,894,-517, 7/14/59—J. Davis 441
Work Holder for Electroplating—2,938,-850, 5/31/60—H. Nali 1195

Etching
Aluminum Etching—No. 2,882,134, 4/14/59—S. Spring and R. Elliot 218
Aluminum Etching—2,942,955, 6/28/60—A. Hannah 1295
Aluminum Etching—2,918,357, 12/22/59—R. Elliott 974
Etching—2,926,676, 2/23/60—W. Guenst 954
Etching—2,927,011, 3/1/60—R. Stead 1074
Etching—2,941,875, 6/21/60—A. Amaya 1196
Etching Aluminum—2,939,772, 6/7/60—K. W. Newman, et al 1195
Etching Copper—2,908,557, 10/13/59—O. Black and L. Cutler 748
Etching Solution—2,942,954, 6/28/60—A. B. Thomas 1295
Process of Chemical Etching—No. 2,888,-335, 5/26/59—D. Atkins and R. Edds 219
Resist Etching—No. 2,887,367, 5/19/59—E. Eisner 103

G

Galvanizing
Galvanizing—2,944,925, 7/12/60—C. Lynch 1296
Galvanizing Means—No. 2,889,803, 6/9/59—W. Pearson 328
Galvanizing Strip—No. 2,894,850, 7/14/59—J. Greene and J. Holzwarth 441
Hot Dip Galvanizing—2,940,870, 6/14/60—A. Baldwin 1196

Gas Plating
Gas Plating of Titanium—No. 2,887,406, 5/19/59—H. Homer 103
Gas Plating—No. 2,888,375, 5/26/59—F. Drummond 219
Gas Plating—2,905,573, 9/22/59—P. Marvin 716
Gas Plating—2,916,400, 12/8/59—H. Homer and O. Cummins 957
Gas Plating—2,921,968, 1/19/60—C. Berger 1073
Zinc Gas Plating—No. 2,898,227, 8/4/59—F. Drummond 550

Gold
Bright Gold—2,905,601, 9/22/59—E. C. Rinker and R. Duva 718
Gold Plated Electrical Contact—No. 2,897,584, 8/4/59—K. Schumpelt 550

I

Iron
Iron Coated Uranium—2,928,168, 3/15/60—A. Gray 1074
Removal of Iron from Aluminum—2,901,-334, 8/25/59—M. Brown 714

M

Magnesium
Anodizing Magnesium—2,901,409, 8/25/59—H. DeLong 714
Coating Magnesium—2,926,125, 2/23/60—J. Cuthbert 954
Coating with Magnesium—2,935,421, 5/3/60—D. Chisholm 1194
Production of Magnesium—No. 2,888,389, 5/26/59—E. Williams 328
Protective Coating for Magnesium—2,935,423, 5/3/60—W. Kapfer and M. Kronstein 1194

Miscellaneous
Adherent Oxide Film—2,917,419, 12/15/59—P. Robinson 974
Aryl Sulfimides—No. 2,891,979, 6/23/59—H. Ford and W. Shenk Jr. 331
Barrel—2,941,656, 6/21/60—W. H. Jackson 1196
Black Plate Treatment—2,920,019, 1/5/60—E. and R. Smith 1070
Bonding Coat for Metal—2,901,385, 8/25/59—L. Curtin 714
Chemical Milling—2,938,774, 5/31/60—L. W. Bahe 1195
Cold Extrusion Lubricant—2,921,865, 1/9/60—W. Kubie 1073
Composite Metal Article—No. 2,887,766, 5/26/59—R. Fike and A. Pilous 219

Page

Corrosion Inhibition—2,918,390, 12/22/59—L. Brown and S. Spring 1070
Degreaser—2,924,229, 2/9/60—T. Kearney and J. Nuber 954
Deposition of Lead Dioxide—2,945,790, 7/19/60—J. Grigger 1398
Descaling—No. 2,894,860, 7/14/59—E. Engelhardt 442
Disc-Loaded Wave Guides—No. 2,898,-273, 8/4/59—L. La Forge 712
Electrical Component—2,917,438, 12/15/59—A. Wiley 974
Electrochemical Method—2,931,758, 4/5/60—E. Zimmerman 1086
Electroforming—2,932,609, 4/12/60—N. Pierce 1192
Extraction of Vanadium, Niobium and Tantalum—2,947,672, 8/2/60 1399
Fluxing Composition—2,927,049, 3/1/60—R. D. Wasserman 1074
Germanium Contacts—2,914,449, 11/24/59—S. Mayer 957
Grinding Wheel—2,920,026, 1/5/60—S. Kistler 1070
Hollow Mold—2,949,410, 8/16/60—G. Bingham 1399
Hydrogen Elimination in Treatment of Metals—No. 2,893,181, 7/7/59—W. Burroughs 440
Improving Plating Speeds—2,900,313, 8/18/59—E. Saubestre and E. Bulen 713
Increasing Corrosion Resistance—2,927,-873, 3/8/60—E. Bengtason and Olson 1074
Lapping Compounds—2,944,879, 7/12/60—L. Allen and D. Woodward 1296
Lapping Method—2,933,437, 4/19/60—O. Loosme 1193
Low Stress Rhodium—No. 2,895,889, 7/21/59—K. Schumpelt 549
Making Hollow Metal Lasts—2,912,368, 11/10/59—G. Bingham 856
Manufacture of Thin Films—2,920,002, 1/5/60—M. Auwarter 1070
Measurement of Cyanide Concentration—2,912,367, 11/10/59—E. Asendorf and G. Hullen 856
Metal Sheet Production—2,944,954, 7/12/60—R. Yeck 1398
Metal Treatment—2,935,432, 5/3/60—L. Schuster, H. Whitenight and W. Jung Jr. 1194
Metallizing Ceramics—2,904,456, 9/15/59—H. Nolte 716
Metallizing Non-Conductive Material—2,917,439, 12/15/59—H. Liu 974
Method for Applying Metallic Coatings—No. 2,895,845, 7/21/59—J. Jones and W. Potthoff 549
Method of Making Hollow Body—No. 2,889,258, 6/2/59—S. Failkoff 328
Paint Stripper—2,940,877, 6/14/60—L. Jaffe and W. L. Harris 1196
Plating Cell—2,913,375, 11/17/59—R. Gilmont 957
Preparing Porous Sintered Metal Parts for Plating—No. 2,897,097, 7/26/59—M. Smith and H. Latvn 549
Preparing Surfaces for Plating—No. 2,899,367, 8/11/59—L. Veeder 713
Producing Thin Films—2,932,592, 4/12/60—A. Cameron 1192
Pretreating Thorium for Plating—No. 2,897,124, 7/28/59—J. Beach and G. Schaer 550
Quenching Process—2,920,988, 1/12/60—T. Bulat 1070
Sealing Anodic Coating—No. 2,899,368, 8/11/59—R. Spooner 713
Semiconductor Treatment—2,945,789, 7/19/60—R. Williams 1398
Separation Process—2,913,379, 11/17/59—M. Steinberg 957
Sharpening Electroconductive Materials—2,939,825, 6/7/60—C. Faust and J. Clifford 1196
Steel Surface Treatment—2,923,608, 2/2/60—P. Margulies 954
Storage Battery Fluid—2,946,707, 7/26/60—H. Sperber 1398
Surface Treatment of Metals—2,930,723, 3/29/60—R. Fraser and I. Burton 1086
Test for Brazeability—2,942,999, 6/28/60—E. J. Roehl and E. B. Michel 1296
Vacuum Metallizing—No. 2,890,135, 6/9/59—G. Jenkins 330
Wire Processing Contact—2,946,734, 7/26/60—F. Roy 1399

Molybdenum
Coatings for Molybdenum—No. 2,886,-499, 5/12/59—G. Schaer and J. Beach 103
Plating Molybdenum—2,928,169, 3/15/60—J. Beach and G. Schaer 1074

N

Nickel
Catalytic Nickel Plating—No. 2,872,342, 2/3/59—H. Nack 218
Chemical Nickel Plating—2,928,757, 3/15/60—W. Lee and E. Brower 1075
Electroless Nickel Plating—2,916,401, 12/8/59—L. Puls and W. Vincent 974
Electroless Nickel—2,929,742, 3/22/60—C. de Minjer and A. Brenner 1086
Electroless Nickel—2,935,425, 5/3/60—G. Gutzeit, P. Talmey and W. Lee 1194

Page

Electroless Nickel—2,941,902, 6/21/60—P. Talmey and W. J. Crehan 1196
Nickel Coated Iron Particles—2,933,415, 4/19/60—H. Homer and J. Whitacre 1192
Nickel Coating Uranium—No. 2,894,884, 7/14/59—A. Gray 442
Nickel Plating—No. 2,886,468, 5/12/59—T. Hoover and T. Zava 102
Nickel Plating—No. 2,893,933, 7/7/59—J. Winters and L. Westbrook 441
Nickel Plating—2,937,978, 5/24/60—W. Strauss, et al 1195

P

Phosphates
Phosphating—No. 2,886,477, 5/12/59—C. Smith 103
Phosphating Bath—No. 2,850,415, 9/2/58—G. Otto and F. Heller 218
Phosphate Coating—2,928,762, 3/15/60—M. Hyams 1075

Pickling
Chrome Pickling Magnesium—No. 2,887,-418, 5/19/59—L. Whilby 218
Control of Pickling Baths—2,927,871, 3/8/60—E. Manche and C. Shingledecker 1074

Plutonium
Preparation of Plutonium—No. 2,893,928, 7/7/59—M. Kolodney 440
Purification of Plutonium—2,923,670, 2/2/60—C. Bjorklund 954

Printed Circuits
Printed Circuits—2,934,479, 4/26/60—L. Deer 1193
Printed Circuits—2,940,018, 6/7/60—W. G. Lee 1195
Printed Circuit—No. 2,888,336, 5/26/59—E. Padgett 219
Soldering Printed Circuits—2,909,833, 10/27/59—W. Murray and J. Dyer 825

S

Silver
Coating Glass Filaments With Silver—2,900,274, 8/18/59—H. Whitehurst 713
Silver Film—2,924,535, 2/9/60—V. Schaefer 954
Silvering Mirrors—No. 2,899,333, 8/11/59—R. Gee and J. Gibbs 713

T

Tin
Heating Tin Strip—2,933,425, 4/19/60—F. Hess 1193
Immersion Tinning—2,940,867, 6/14/60—M. A. Streicher 1196
Solderability of Tin Plate—2,931,759, 4/5/60—U. Hill 1086
Tin Plating—2,930,740, 3/29/60—G. Ward 1086
Tinning Oil—No. 2,886,465, 5/12/59—J. Nelson 102
Tinning Strip Steel—2,937,108, 5/17/60—T. Toye 1195
Treatment of Tinplate—2,906,677, 9/29/59—E. Smith and J. Smith 718

Titanium
Coating Titanium—2,935,431, 5/3/60—E. Shaw and N. M. Ness 1194
Electroplating Titanium—2,921,888, 1/19/60—D. Halpert 1073
Electrorefining Titanium—2,939,823, 6/7/60—M. J. Rand 1196
Producing Titanium—No. 2,893,935, 7/7/59—I. Johns 441
Producing Titanium Crystals—2,909,472, 10/20/59—R. Dean 825
Production of Titanium—No. 2,892,764, 6/30/59—E. Andrews 331
Production of Titanium—No. 2,898,275, 8/4/59—E. Andrews 712
Production of Titanium—2,908,619, 10/13/59—C. Barnett 825
Refining Titanium—2,901,410, 8/25/59—R. Dean and W. Gullett 714
Refining Titanium—2,913,378, 11/17/59—R. Dean and W. Gullett 957
Titanium Anodizing—2,949,411, 8/16/60—K. Beck 1399
Titanium Metal Production—2,917,440, 2/15/59—C. Olson 974

Z

Zinc
Bright Zinc or Cadmium Plating—No. 2,885,330, 5/5/59—J. Levy 102
Molten Zinc Bath—2,929,740, 3/22/60—J. Logan 1086
Zinc Plating—2,905,603, 9/22/59—W. Safranek and H. Miller 718

Zirconium
Bonding to Zirconium—2,932,887, 4/19/60—F. McCuaig and R. Misch 1192
Depositing Zirconium on Uranium—2,905,599, 9/22/59—J. Wick 718
Electrolytic Zirconium—2,946,729, 7/26/60—R. Dean 1399
Zirconium-Clad Steel Plate—2,932,885, 4/19/60—T. Watson 1192

ADVERTISING INDEX

This index is published entirely as a convenience. Every care for accuracy has been exercised. No assurance can be given, however, against inadvertent error.

A

Acme Manufacturing Co. ... 1395
All Brite Chemical Company ... 1396
Allied Chemical Corp., General Chemical Division ... Third Cover
Solvay Process Division ... 1337
Allied Research Products, Inc. ... 1406–1407
American Brass Company ... 1334
American Metal Climax, Inc. ... 1379
Autosonics, Inc. ... 1400

B

Baker Company, M. E. ... 1425
Barrett Chemical Products Co. ... 1415
Better Finishes & Coatings, Inc. ... 1413

C

Chemical Corporation, The ... 1423
Clinton Supply Co. ... 1424
Cohn Mfg. Co., Inc., Sigmund ... 1400
Cuno Engineering Corp. ... 1348–1349

D

Deering, Milliken & Co., Inc. ... 1344
Diamond Alkali Co. ... 1340
Diversey Corporation ... 1409
Dixon & Rippel, Inc. ... 1428
Draper, Ltd., Robert ... 1418
Dresser Electric Company ... 1398
Duggan Masking Devices ... 1428

E

Enthone, Inc. ... 1329

F

Formax Manufacturing Corp. ... 1421
Frank, Paul ... 1422

H

Hanson-Van Winkle-Munning Company ... 1376–1377, Fourth Cover
Harshaw Chemical Co., The ... 1332
Harstan Chemical Corp. ... 1411
Holland & Sons, J. ... 1416
Hull & Company, R. O. ... 1339

I

Imperial Industries ... 1402

K

Kocour Company ... 1428

L

Lasalco, Inc. ... 1346
Lea Manufacturing Company ... 1393
Lea-Ronal, Inc. ... 1394
L'Hommedieu & Sons Co., Charles F. ... 1389
Lockheed Aircraft Corporation ... 1350

M

Macarr, Inc. ... 1426
Mac Dermid, Inc. ... 1360
Magnus Chemical Company, Inc. ... 1414
Malsbary Manufacturing Co. ... 1397
MART ... 1424
Metal & Thermit Corporation ... 1391
Michigan Chrome & Chemical Co. ... 1359

N

National Carbon Co., Div. of Union Carbide Corporation ... 1336
Northwest Chemical Co. ... 1347
Norton Company ... 1341

P

Pfaudler Division of Pfaudler Permutit, Inc. ... 1342
Phelps Dodge Refining Corp. ... 1417
Professional Directory ... 1425

R

Raybestos-Manhattan, Inc., Manhattan Rubber Div. ... 1419

S

Seeley Co., Inc., E. E. ... 1428
Sel-Rex Corporation ... Second Cover
Sellers Engineering Co. ... 1330
Sethco Manufacturing Co. ... 1420
Spraying Systems Co. ... 1421
Stevens, Inc., Frederic B. ... 1380–1381

T

Texas Instruments Inc., Metal & Controls Division ... 1399
True Brite Chemical Products Co. ... 1426

U

Udylite Corporation, The ... 1343–1345
United Process Assemblies, Inc. ... 1396
U. S. Industrial Tool & Supply Co. ... 1428
Unitron Instrument Division of United Scientific Co. ... 1412
Univertical Corporation ... 1400

W

Wyandotte Chemicals Corp. ... 1338

Z

Zialite Corporation ... 1405